

	Hits	Search Text
1	145	astro-turf or astroturf
2	2821	(artificial or synthetic) with (grass or turf)
3	2886	((artificial or synthetic) with (grass or turf)) or (astro-turf or astroturf)
4	423537	polypropylene or propylene
5	178738	bead
6	655545	mold
7	26957	open near2 cell\$3
8	645441	expand\$
9	1896	(polypropylene or propylene) with bead
10	7	pre-exapnd\$
11	1686	pre-expand\$
12	1686	pre-expand\$ or pre-exapnd\$
13	146	mold same ((polypropylene or propylene) with bead)

Databases

USPAT
VS PGPUB
EPO
JPO
DERWENT
IBM TDB

	Hits	Search Text
14	0	((pre-expand\$ or pre-exapnd\$) same (mold same ((polypropylene or propylene) with bead))) and (((artificial or synthetic) with (grass or turf)) or (astro-turf or
15	0	(mold same ((polypropylene or propylene) with bead)) and (((artificial or synthetic) with (grass or turf)) or (astro-turf or
16	4	((polypropylene or propylene) with bead) and (((artificial or synthetic) with (grass or turf)) or (astro-turf or astroturf))
17	12	(pre-expand\$ or pre-exapnd\$) same (mold same ((polypropylene or propylene) with bead))
18	34455	underlay or under-lay or underpad or under-pad or padding
19	28	((polypropylene or propylene) with bead) and (underlay or under-lay or underpad or under-pad or padding)
20	154350	cushion\$
21	138	((polypropylene or propylene) with bead) and cushion\$
22	427496	floor\$ or rug or carpet\$
23	72	"55" and ((polypropylene or propylene) with bead)
24	96	(floor\$ or rug or carpet\$) and ((polypropylene or propylene) with bead)
25	18	((floor\$ or rug or carpet\$) and ((polypropylene or propylene) with bead)) and (((polypropylene or propylene) with bead) and cushion\$)

	Hits	Search Text
26	3638	("428/85-97").CCLS.
27	3775	("428/15-27").CCLS.
28	230	("52/403.1").CCLS.
29	0	((polypropylene or propylene) with bead) and ("428/15-27").CCLS.)
30	0	((polypropylene or propylene) with bead) and ("52/403.1").CCLS.)
31	361	("15/215").CCLS.
32	0	((polypropylene or propylene) with bead) and ("15/215").CCLS.)
33	2	((polypropylene or propylene) with bead) and ("428/85-97").CCLS.)
34	21	neopolen\$ or eperan\$
35	3521	(polyethylene or olefin or polyolefin) with bead
36	594	(pre-expand\$ or pre-exapnd\$) with bead
37	3984	((polyethylene or olefin or polyolefin) with bead) or ((pre-expand\$ or pre-exapnd\$) with bead)

	Hits	Search Text
38	0	((artificial or synthetic) with (grass or turf) or (astro-turf or astroturf)) and ((polyethylene or olefin or polyolefin) with bead) or ((pre-expand\$ or pre-exapnd\$) with bead))
39	226	cushion\$ and ((polyethylene or olefin or polyolefin) with bead) or ((pre-expand\$ or pre-exapnd\$) with bead))
40	200	(floor\$ or rug or carpet\$) and ((polyethylene or olefin or polyolefin) with bead) or ((pre-expand\$ or pre-exapnd\$) with bead))
41	0	((52/403.1").CCLS.) and ((polyethylene or olefin or polyolefin) with bead) or ((pre-expand\$ or pre-exapnd\$) with bead))
42	4	((polyethylene or olefin or polyolefin) with bead) or ((pre-expand\$ or pre-exapnd\$) with bead)) and (428/15-27").CCLS.)
43	4	((428/85-97").CCLS.) and ((polyethylene or olefin or polyolefin) with bead) or ((pre-expand\$ or pre-exapnd\$) with bead))
44	33	(underlay or under-lay or underpad or under-pad or padding) and ((polyethylene or olefin or polyolefin) with bead) or ((pre-expand\$ or pre-exapnd\$) with bead))
45	406850	impact
46	33	((polypropylene or propylene) with bead) same impact
47	22283	impact near3 absor\$

	Hits	Search Text
48	5108	impact near3 absorption
49	1	(impact near3 absorption) same (((artificial or synthetic) with (grass or turf)) or (astro-turf or astroturf))
50	96	impact same (((artificial or synthetic) with (grass or turf)) or (astro-turf or astroturf))

L Number	Hits	Search Text	DB	Time stamp
1	2886	((artificial or synthetic) with (grass or turf)) or (astro-turf or astroturf)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/09/27 21:10
8	4347	golf\$ with tee	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/09/27 21:10
15	163	(((artificial or synthetic) with (grass or turf)) or (astro-turf or astroturf)) same (golf\$ with tee)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/09/27 21:10
22	269417	slit	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/09/27 21:11
29	3	slit same (((artificial or synthetic) with (grass or turf)) or (astro-turf or astroturf)) same (golf\$ with tee)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/09/27 21:12
36	39	hole same (((artificial or synthetic) with (grass or turf)) or (astro-turf or astroturf)) same (golf\$ with tee)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM TDB	2001/09/27 21:12

DERWENT-ACC-NO: 1999-060366
DERWENT-WEEK: 200132
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TITLE: Synthetic turf surface for grass-type game playing fields
- has closely
spaced U-shaped tufts fastened upon backing sheet, preferably
made from woven
weather resistant polypropylene or nylon fibres

INVENTOR: LEMIEUX, A

PATENT-ASSIGNEE: 2752-3273 QUEBEC INC[TWOSN], LEMIEUX A[LEMII],
QUEBEC
INC[QUEBN]

PRIORITY-DATA: 1997CA-2206295 (June 9, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	
PAGES	MAIN-IPC		
NZ 502184 A	May 25, 2001	N/A	000
E01C 013/08			
WO 9856993 A1	December 17, 1998	E	015
E01C 013/08			
AU 9877548 A	December 30, 1998	N/A	000
E01C 013/08			
CA 2206295 A	December 9, 1998	N/A	000
A63C 019/00			
NO 9906026 A	February 1, 2000	N/A	000
E01C 000/00			
EP 988423 A1	March 29, 2000	E	000
E01C 013/08			
BR 9810428 A	September 19, 2000	N/A	000
E01C 013/08			
CN 1264449 A	August 23, 2000	N/A	000
E01C 013/08			
MX 9911377 A1	April 1, 2000	N/A	000
E01C 013/08			

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ
DE DK EE ES FI G
B GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MD MG MK MN MW
MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN
YU ZW AT BE CH
CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT
SD SE SZ UG ZW A

L AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
NZ 502184A	N/A	1998NZ-0502184
June 9, 1998		
NZ 502184A	N/A	1998WO-CA00559
June 9, 1998		
NZ 502184A	Based on	WO 9856993
N/A		
WO 9856993A1	N/A	1998WO-CA00559
June 9, 1998		
AU 9877548A	N/A	1998AU-0077548
June 9, 1998		
AU 9877548A	Based on	WO 9856993
N/A		
CA 2206295A	N/A	1997CA-2206295
June 9, 1997		
NO 9906026A	N/A	1998WO-CA00559
June 9, 1998		
NO 9906026A	N/A	1999NO-0006026
December 8, 1999		
EP 988423A1	N/A	1998EP-0925367
June 9, 1998		
EP 988423A1	N/A	1998WO-CA00559
June 9, 1998		
EP 988423A1	Based on	WO 9856993
N/A		
BR 9810428A	N/A	1998BR-0010428
June 9, 1998		
BR 9810428A	N/A	1998WO-CA00559
June 9, 1998		
BR 9810428A	Based on	WO 9856993
N/A		
CN 1264449A	N/A	1998CN-0807100
June 9, 1998		
MX 9911377A1	N/A	1999MX-0011377
December 8, 1999		

INT-CL (IPC): A63B067/02; A63B069/36 ; A63C019/00 ;
E01C000/00 ;
E01C013/08

ABSTRACTED-PUB-NO: WO 9856993A

BASIC-ABSTRACT: A synthetic turf pile carpet has closely spaced
U-shaped tufts

(11) fastened upon a backing sheet, preferably made from woven
weather
resistant polypropylene or nylon fibres. A binder layer (16) of

polyurethane
adhesive may be applied to bind the tufts and backing sheet
together. The
carpet may be placed upon a resilient cushion underpad (18) of
open-cell,
expanded bead polypropylene, from 1/4'' to 12'' thick, depending
upon the
application.

The upper portions of the tufts are sand blasted to shred the
ends into slivers
which entwine to form a dense mat, which may be further treated
with a high
pressure water spray. Slits (30) may be provided to receive golf
tees.

USE - To simulate a natural grass playing field for games such as
golf or
tennis (claimed).

ADVANTAGE - Closely simulates the feel, action and reaction of a
natural grass
playing field.

CHOSEN-DRAWING: Dwg.9/9

TITLE-TERMS:

SYNTHETIC TURF SURFACE GRASS TYPE GAME PLAY FIELD CLOSELY SPACE
U-SHAPED TUFT
FASTEN BACKING SHEET PREFER MADE WOVEN WEATHER RESISTANCE
POLYPROPYLENE NYLON
FIBRE

DERWENT-CLASS: A93 P36 Q41

CPI-CODES: A12-F01A;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1]

018 ; R00964 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58
D83 ;

H0000 ; S9999 S1194 S1161 S1070 ; P1150 ; P1343

Polymer Index [1.2]

018 ; P0635*R F70 D01 ; S9999 S1194 S1161 S1070

Polymer Index [1.3]

018 ; ND01 ; Q9999 Q9096 Q9052 ; K9416 ; K9676*R ; Q9999
Q9461 Q9052

Polymer Index [1.4]

018 ; B9999 B4728 B4568

Polymer Index [2.1]

018 ; P1592*R F77 D01

Polymer Index [2.2]

018 ; ND01 ; Q9999 Q9096 Q9052 ; K9416 ; K9676*R ; Q9999
Q9461 Q9052

Polymer Index [2.3]

018 ; Q9999 Q6791

Polymer Index [3.1]

018 ; R00964 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58
D83 ;

H0000 ; S9999 S1343 S1309 ; P1150 ; P1343

Polymer Index [3.2]

018 ; ND01 ; Q9999 Q9096 Q9052 ; K9416 ; K9676*R ; Q9999
Q9461 Q9052

Polymer Index [3.3]

018 ; B9999 B3930*R B3838 B3747 ; B9999 B4002 B3963 B3930
B3838
B3747

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1999-018053

Non-CPI Secondary Accession Numbers: N1999-044754

CLIPPEDIMAGE= WO009856993A1
PUB-NO: WO009856993A1
DOCUMENT-IDENTIFIER: WO 9856993 A1
TITLE: SYNTHETIC TURF GAME SURFACE

PUBN-DATE: December 17, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
LEMIEUX, ALAIN	CA

ASSIGNEE-INFORMATION:

NAME	COUNTRY
2752 3273 QUEBEC INC	CA
LEMIEUX ALAIN	CA

APPL-NO: CA09800559
APPL-DATE: June 9, 1998

PRIORITY-DATA: CA02206295A (June 9, 1997)
INT-CL_(IPC): E01C013/08
EUR-CL_(EPC): E01C013/08

ABSTRACT:

A synthetic turf surface for golf courses, tennis courts and other grass-surfaced game playing fields is formed of a synthetic grass carpet having a flexible base sheet (14) with closely spaced-apart upright, blade-like strands (12) of plastic material forming a dense grass-like surface. The carpet is supported upon a cushioning underpad (18) which is formed of a thick, molded sheet of open cell, expanded bead polypropylene. The resiliently compressible polypropylene underpad combined with the synthetic grass carpet closely simulates the feel of a natural grass covered playing surface.

DERWENT-ACC-NO: 1999-060365
DERWENT-WEEK: 200140
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TITLE: Method for forming a synthetic turf game playing surface
- provides a
surface which closely resembles the feel and playing
characteristics of natural
turf.

INVENTOR: LEMIEUX, A

PATENT-ASSIGNEE: 2752-3273 QUEBEC INC[TWOSN], LEMIEUX A[LEMII],
QUEBEC
INC[QUEBN]

PRIORITY-DATA: 1997CA-2206106 (June 9, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	
PAGES	MAIN-IPC		
NZ 502183 A	June 29, 2001	N/A	000
E01C 013/08			
WO 9856992 A1	December 17, 1998	E	014
E01C 013/08			
AU 9877547 A	December 30, 1998	N/A	000
N/A			
CA 2206106 A	December 9, 1998	N/A	000
A63C 019/00			
NO 9906027 A	February 1, 2000	N/A	000
E01C 000/00			
EP 988422 A1	March 29, 2000	E	000
E01C 013/08			
BR 9810743 A	September 19, 2000	N/A	000
E01C 013/08			
CN 1263575 A	August 16, 2000	N/A	000
E01C 013/08			
MX 9911378 A1	April 1, 2000	N/A	000
E01C 013/08			

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ
DE DK EE ES FI G
B GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MD MG MK MN MW
MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN
YU ZW AT BE CH
CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT
SD SE SZ UG ZW A

L AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI

APPLICATION-DATA:

PUB-NO	APPL-DESCRIPTOR	APPL-NO
APPL-DATE		
NZ 502183A	N/A	1998NZ-0502183
June 9, 1998		
NZ 502183A	N/A	1998WO-CA00558
June 9, 1998		
NZ 502183A	Based on	WO 9856992
N/A		
WO 9856992A1	N/A	1998WO-CA00558
June 9, 1998		
AU 9877547A	N/A	1998AU-0077547
June 9, 1998		
AU 9877547A	Based on	WO 9856992
N/A		
CA 2206106A	N/A	1997CA-2206106
June 9, 1997		
NO 9906027A	N/A	1998WO-CA00558
June 9, 1998		
NO 9906027A	N/A	1999NO-0006027
December 8, 1999		
EP 988422A1	N/A	1998EP-0925366
June 9, 1998		
EP 988422A1	N/A	1998WO-CA00558
June 9, 1998		
EP 988422A1	Based on	WO 9856992
N/A		
BR 9810743A	N/A	1998BR-0010743
June 9, 1998		
BR 9810743A	N/A	1998WO-CA00558
June 9, 1998		
BR 9810743A	Based on	WO 9856992
N/A		
CN 1263575A	N/A	1998CN-0807101
June 9, 1998		
MX 9911378A1	N/A	1999MX-0011378
December 8, 1999		

INT-CL_(IPC): A63C019/00; E01C000/00 ; E01C013/08

ABSTRACTED-PUB-NO: WO 9856992A

BASIC-ABSTRACT: Disclosed is a method of forming a synthetic turf game surface comprising a carpet cover having a base sheet (14) carrying closely spaced, upright plastic strands (12) simulating grass blades. A polyurethane adhesive binding layer (16) may be applied to secure the blades in place.

The cover is placed on a resilient cushion pad (18) supported on a firm surface, and the upper portions of the strands (12) are sand blasted to shred them into slivers (23) which intertwine to form a dense mat, while the lower portions remain generally upright, followed by spraying with a pressurised water jet. The cushion pad (18) is formed from moulded, open cell, expanded bead polypropylene of a density of from 1.3 to 2.8 lbs per cu.ft. and a thickness between 1/2" to 2", giving a pad density of about 1.3 to 3 lbs per cu.ft. suitable for playing golf. A thinner pad, 1/2" to 1" thick, is used to form a simulated grass tennis court.

USE - To form a simulated turf game playing surface.

ADVANTAGE - Closely simulates the feel and playing characteristics of natural grass turf.

CHOSEN-DRAWING: Dwg.3/6

TITLE-TERMS:

METHOD FORMING SYNTHETIC TURF GAME PLAY SURFACE SURFACE CLOSELY RESEMBLE FEEL
PLAY CHARACTERISTIC NATURAL TURF

DERWENT-CLASS: A93 P36 Q41

CPI-CODES: A05-G01E; A12-F01A;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1]

018 ; P1592*R F77 D01

Polymer Index [1.2]

018 ; ND01 ; ND07 ; K9416 ; N9999 N7192 N7023 ; Q9999 Q7818*R

;

Q9999 Q9096 Q9052 ; N9999 N7294 ; Q9999 Q9461 Q9052 ; Q9999 Q9074

Q9052 ; K9574 K9483

Polymer Index [1.3]

018 ; Q9999 Q6644*R

Polymer Index [1.4]

018 ; N9999 N5721*R

Polymer Index [2.1]

018 ; P0000 ; S9999 S1070*R

Polymer Index [2.2]

018 ; ND01 ; ND07 ; K9416 ; N9999 N7192 N7023 ; Q9999 Q7818*R

Q9999 Q9096 Q9052 ; N9999 N7294 ; Q9999 Q9461 Q9052 ; Q9999 Q9074

Q9052 ; K9574 K9483

Polymer Index [2.3]

018 ; N9999 N5721*R

Polymer Index [3.1]

018 ; R00964 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58 D83 ;

H0000 ; S9999 S1434 ; S9999 S1343 S1309 ; P1150 ; P1343

Polymer Index [3.2]

018 ; ND01 ; ND07 ; K9416 ; N9999 N7192 N7023 ; Q9999 Q7818*R

Q9999 Q9096 Q9052 ; N9999 N7294 ; Q9999 Q9461 Q9052 ; Q9999 Q9074

Q9052 ; K9574 K9483

Polymer Index [3.3]

018 ; B9999 B4842 B4831 B4740 ; B9999 B5243*R B4740 ; B9999 B4024

B3963 B3930 B3838 B3747

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C1999-018052

Non-CPI Secondary Accession Numbers: N1999-044753